

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

OYSTER OPTICS, LLC,

Plaintiff,

v.

CORIANT (USA) INC., CORIANT
NORTH AMERICA, LLC, and
CORIANT OPERATIONS, INC.

Defendants.

Civil Action No. **2:16-cv-1302**

JURY TRIAL DEMANDED

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 *et seq.* in which Plaintiff Oyster Optics, LLC (“Oyster” or “Plaintiff”) makes the following allegations against Defendants Coriant (USA) Inc., Coriant North America, LLC, and Coriant Operations, Inc. (collectively “Defendants” or “Coriant”).

PARTIES

1. Oyster Optics, LLC is a Texas company, and has a place of business at 11921 Freedom Drive, Suite 550, Reston, VA 20190.

2. On information and belief, Coriant (USA) Inc. is a Delaware corporation with its principal place of business at 200 Crossing Boulevard, Suite 420, Bridgewater, NJ 08807. Coriant (USA) Inc. can be served through its registered agent, National Registered Agents, Inc., at 160 Greentree Dr. Ste 101, Dover, Delaware 19904.

3. On information and belief, Coriant North America, LLC. is a Delaware corporation with its principal place of business at 1415 West Diehl Road Naperville, IL 60563.

Coriant North America LLC can be served through its registered agent, National Registered Agents, Inc., 160 Greentree Dr. Ste 101, Dover, Delaware 19904.

4. On information and belief, Coriant Operations, Inc. is a Delaware corporation with its principle place of business at 1415 West Diehl Road, Naperville, IL 60563. Coriant Operations, Inc. can be served through its registered agent, National Registered Agents, Inc., 160 Greentree Dr. Ste 101, Dover, Delaware 19904.

JURISDICTION AND VENUE

5. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over Coriant in this action because, among other reasons, Coriant has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with the forum state of Texas. Coriant directly and/or through subsidiaries or intermediaries (including distributors, retailers, and others), has committed and continues to commit acts of infringement in this District by, among other things, making, using, importing, offering for sale, and/or selling products and/or services that infringe the patents-in-suit. Thus, Coriant purposefully availed itself of the benefits of doing business in the State of Texas and the exercise of jurisdiction over Coriant would not offend traditional notions of fair play and substantial justice. Coriant is registered to do business in the State of Texas, and has appointed National Registered Agents, Inc., at 1999 Bryan St., Ste. 900, Dallas, TX 75201, as its agent for service of process.

7. This Court has personal jurisdiction over Coriant in this action because, among other reasons, Coriant has committed acts within the Eastern District of Texas giving rise to this

action and has established minimum contacts with the forum state of Texas. Coriant directly and/or through subsidiaries or intermediaries (including distributors, retailers, and others), has committed and continues to commit acts of infringement in this District by, among other things, making, using, importing, offering for sale, and/or selling products and/or services that infringe the patents-in-suit. Thus, Coriant purposefully availed itself of the benefits of doing business in the State of Texas and the exercise of jurisdiction over Coriant would not offend traditional notions of fair play and substantial justice.

8. Venue is proper in this District under 28 U.S.C. §§ 1391 (b)-(c) and 1400(b) because Defendants are subject to personal jurisdiction in this District, have transacted business in this District and have committed acts of patent infringement in this District.

BACKGROUND

9. In the early 2000s, Oyster Optics, Inc., a research, development, and engineering company, was focused upon innovation in government, commercial, security, and broad-band applications of leading edge fiber optics technology. Mr. Peter (“Rocky”) Snawerdt was at Oyster Optics, Inc. when he invented the subject matter of U.S. Patent Nos. 6,469,816; 6,476,952; 6,594,055; 7,099,592; 7,620,327; 8,374,511; 8,913,898, and 9,363,012 (collectively, “asserted patents” or “patents-in-suit”).

10. Oyster is the owner by assignment of United States Patent No. 6,469,816 (“the ’816 Patent”) entitled “Phase-Modulated Fiber Optic Telecommunications System.” The ’816 Patent was duly and legally issued by the United States Patent and Trademark Office on October 22, 2002. A true and correct copy of the ’816 Patent is included as Exhibit A.

11. Oyster is the owner by assignment of United States Patent No. 6,476,952 (“the ’952 Patent”) entitled “Phase-Modulated Fiber Optic Telecommunications System.” The ’952

Patent was duly and legally issued by the United States Patent and Trademark Office on November 5, 2002. A true and correct copy of the '952 Patent is included as Exhibit B.

12. Oyster is the owner by assignment of United States Patent No. 6,594,055 ("the '055 Patent") entitled "Secure Fiber Optic Telecommunications System and Method." The '055 Patent was duly and legally issued by the United States Patent and Trademark Office on July 15, 2003. A true and correct copy of the '055 Patent is included as Exhibit C.

13. Oyster is the owner by assignment of United States Patent No. 7,099,592 ("the '592 Patent") entitled "Telecommunications Card for Secure Optical Data Transmission and Installation Method." The '592 Patent was duly and legally issued by the United States Patent and Trademark Office on August 29, 2006. A true and correct copy of the '592 Patent is included as Exhibit D.

14. Oyster is the owner by assignment of United States Patent No. 7,620,327 ("the '327 Patent") entitled "Fiber Optic Telecommunications Card with Energy Level Monitoring." The '327 Patent was duly and legally issued by the United States Patent and Trademark Office on November 17, 2009. A true and correct copy of the '327 Patent is included as Exhibit E.

15. Oyster is the owner by assignment of United States Patent No. 8,374,511 ("the '511 Patent") entitled "Fiber Optic Telecommunications Card with Energy Level Monitoring." The '511 Patent was duly and legally issued by the United States Patent and Trademark Office on February 12, 2013. A true and correct copy of the '511 Patent is included as Exhibit F.

16. Oyster is the owner by assignment of United States Patent No. 8,913,898 ("the '898 Patent") entitled "Fiber Optic Telecommunications Card with Energy Level Monitoring." The '898 Patent was duly and legally issued by the United States Patent and Trademark Office on December 16, 2014. A true and correct copy of the '898 Patent is included as Exhibit G.

17. Oyster is the owner by assignment of United States Patent No. 9,363,012 (“the ’012 Patent”) entitled “Fiber Optic Telecommunications Card with Energy Level Monitoring.” The ’012 Patent was duly and legally issued by the United States Patent and Trademark Office on June 7, 2016. A true and correct copy of the ’012 Patent is included as Exhibit H.

COUNT I

INFRINGEMENT OF THE ’816 PATENT

18. Oyster references and incorporates by reference paragraphs 1 through 16 of this Complaint.

19. Defendants make, use, offer to sell and/or sell in the United States products that infringe various claims of the ’816 Patent, and continue to do so. These include without limitation the 7100 Optical Transport System, 7100 Nano Optical Transport System, and hiT 7300 P (collectively, “Accused Instrumentalities”).

20. The Accused Instrumentalities are a fiber optic data transmission system. For example, the exemplary 7100 Optical Transport System (“7100 OTS”) uses optical fiber to transmit optical signals between nodes.

21. On information and belief, the Accused Instrumentalities comprise a transmitter having a laser emitting a continuous wave light. For example, the 7100 OTS contains a tunable line side laser. The Accused Instrumentalities utilize Differential Phase Shift Key (DPSK) technology, which establishes that the Accused Instrumentalities phase modulate the continuous wave light. The Accused Instrumentalities use a DPSK transmitter for communications.

22. On information and belief, the Accused Instrumentalities comprise a telecommunications optical fiber connected to at least one receiver, the phase-modulator being connected to the telecommunications fiber so that the phase-modulated information optical

signal is transmitted over the telecommunications fiber without recombining with the continuous wave light. For example, the exemplary 7100 Optical Transport System (“7100 OTS”) uses optical fiber to transmit optical signals between nodes.

23. On information and belief, Defendants have directly infringed and continue to directly infringe the ’816 Patent by, among other things, making, using, offering for sale, and/or selling the ’816 Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the ’816 Patent including at least claim 1. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

24. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the ’816 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the ’816 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

25. In addition, Defendants actively induce others, including without limitation customers and end users of Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 1 of the ’816 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants’ customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the ’816 Patent.

Defendants have actual knowledge of the ’816 Patent at least as of service of this Complaint. Defendants are knowingly inducing its customers and/or end users to directly infringe the ’816 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants’ inducement includes, for example, providing

technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '816 Patent.

26. In addition, Defendants offer to sell or sell within the United States, or imports into the United States, a component of a machine, manufacture, combination or composition patented in the '816 Patent, knowing the same to be especially made or adapted for use in an infringement of the '816 Patent and not a staple article or commodity of commerce suitable for substantial noninfringing use, in violation of 35 U.S.C. § 271(c). Defendants have actual knowledge of the '816 Patent at least as of service of this Complaint, and specific intent that its customers and end users of Accused Instrumentalities use its components to directly infringe each and every claim limitation, including without limitation claim 1 of the '816 Patent.

27. To the extent facts learned in discovery show that Defendants' infringement of the '816 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

28. As a result of Defendants' infringement of the '816 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Cisco's infringing activities are enjoined by this Court.

29. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '816 Patent, Oyster will be greatly and irreparably harmed.

COUNT II

INFRINGEMENT OF THE '952 PATENT

30. Oyster references and incorporates by reference paragraphs 1 through 28 of this Complaint.

31. Defendants make, use, offer to sell and/or sell in the United States products that infringe various claims of the '952 Patent, and continue to do so. These include without limitation the 7100 Optical Transport System, 7100 Nano Optical Transport System, and hiT 7300 P (collectively, "Accused Instrumentalities").

32. The Accused Instrumentalities are a fiber optic data transmission system. For example, the exemplary 7100 Optical Transport System ("7100 OTS") uses optical fiber to transmit optical signals between nodes.

33. The Accused Instrumentalities comprise an optical data transmitter comprising a laser for producing light, a phase modulator phase modulating the light, and an electronic control circuit for receiving an electronic input data stream and controlling the phase-modulator, the electronic control circuit including an input data circuit having an electronic delay. The Accused Instrumentalities comprise a laser, for example, the 7100 OTS contains a tunable line side laser. The Accused Instrumentalities utilize Differential Phase Shift Key (DPSK) technology, which establishes that the Accused Instrumentalities phase modulate the continuous wave light. The Accused Instrumentalities use a DPSK transmitter for communications. On information and belief, the transmitter feedback loop in a precoder with a time delay "T" element feeding into an exclusive-or gate along with an input data stream and producing an output that controls the phase modulator.

34. On information and belief, the Accused Instrumentalities comprise a phase compensation circuit for altering an output of the input data circuit, the phase compensation circuit including an N-bit register for storing a desired phase compensation amount, an ALU for summing without carry the desired phase compensation amount, and a delayed feedback exclusive-or gate having a gate output and receiving the input data stream as an input. For example, a DPSK transmitter, which on information and belief is consistent with the design of the Accused Instrumentalities, includes an exclusive-or gate receiving the input data stream as input and producing an output. On information and belief, a most significant bit of an ALU output of the ALU is fed together with the gate output through another exclusive-or gate.

35. On information and belief, Defendants have directly infringed and continue to directly infringe the '952 Patent by, among other things, making, using, offering for sale, and/or selling the '952 Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the '952 Patent including at least claim 13. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

36. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the '952 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the '952 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

37. In addition, Defendants actively induce others, including without limitation customers and end users of Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 13 of the '952 Patent, in violation of 35 U.S.C. § 271(b). Upon information and

belief, Defendants' customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 13 of the '952 Patent.

Defendants have actual knowledge of the '952 Patent at least as of service of this Complaint.

Defendants are knowingly inducing its customers and/or end users to directly infringe the '952 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants' inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '952 Patent.

38. To the extent facts learned in discovery show that Defendants' infringement of the '952 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

39. As a result of Defendants' infringement of the '952 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Cisco's infringing activities are enjoined by this Court.

40. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '952 Patent, Oyster will be greatly and irreparably harmed.

COUNT III

INFRINGEMENT OF THE '055 PATENT

41. Oyster references and incorporates by reference paragraphs 1 through 39 of this Complaint.

42. Defendants make, use, offer to sell and/or sell in the United States Accused Instrumentalities that infringe various claims of the '055 Patent, and continue to do so.

43. The Accused Instrumentalities comprise an optical data transmitter. For example, the exemplary the 7100 Optical Transport System (“7100 OTS”) uses optical fiber to transmit optical signals between nodes.

44. The Accused Instrumentalities comprise a transmitter having a light source producing light. The Accused Instrumentalities comprise a laser, for example, the 7100 OTS contains a tunable line side laser.

45. The Accused Instrumentalities comprise a phase modulator for phase modulating the light source. For example, the Accused Instrumentalities utilize Differential Phase Shift Key (DPSK) technology, which establishes that the Accused Instrumentalities phase modulate the continuous wave light.

46. On information and belief, the Accused Instrumentalities comprise a controller for controlling the phase modulator, including a delayed-feedback exclusive-or gate. For example, on information belief, the Accused Instrumentalities use a DPSK transmitter for communications. On information and belief, the transmitter feedback loop in a precoder with a time delay “T” element feeding into an exclusive-or gate along with an input data stream and producing an output that controls the phase modulator.

47. On information and belief, the controller has a controller output electronic data stream of a plurality of bits, each bit being either a binary zero or a binary one. In a typical DPSK system such as the one used in Accused Instrumentalities, the phase of a signal is always confined to $-\pi$ or π , where $\pi = 90^\circ$, the phase of a signal is confined to 0 or π , where $\pi = 180^\circ$, and the 180° offset corresponds to either a binary 0 or 1, or vice versa.

48. On information and belief, the phase modulator in the Accused Instrumentalities creates a phase-modulated optical signal, for each bit the phase modulator imparting on the light for each binary zero of the controller output electronic data stream either a first phase corresponding to the binary zero or a second phase offset 180 degrees from the first phase corresponding to the binary one so as to create the phase-modulated optical signal.

49. On information and belief, the transmitter has an optical output for the phase-modulated optical signal, the phase-modulated optical signal at the optical output being free of amplitude modulation as a function of the input electronic data stream.

50. On information and belief, Defendants have directly infringed and continue to directly infringe the '055 Patent by, among other things, making, using, offering for sale, and/or selling the '055 Accused Instrumentalities, including the 7100 OTS. On information and belief, such products and/or services are covered by one or more claims of the '055 Patent, including at least claim 15. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

51. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the '055 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the '055 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

52. In addition, Defendants are actively inducing others, such as their customers and end users of Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 15 of the '055 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants' customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 15 of the '055 Patent. Defendants have actual knowledge of the '055 Patent at least as of service of this Complaint. Defendants are knowingly inducing their customers and/or end users to directly infringe the '055 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants' inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '055 Patent.

53. To the extent facts learned in discovery show that Defendants' infringement of the '055 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

54. As a result of Defendants' infringement of the '055 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

55. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from

infringing the '055 Patent, Oyster will be greatly and irreparably harmed.

COUNT IV

INFRINGEMENT OF THE '592 PATENT

56. Oyster references and incorporates by reference paragraphs 1 through 54 of this Complaint.

57. Defendants make, use, offer to sell and/or sell in the United States Accused Instrumentalities that infringe various claims of the '592 Patent, and continue to do so.

58. The Accused Instrumentalities comprise a card for transmitting data over at least one optical fiber. For example, the exemplary the 7100 Optical Transport System ("7100 OTS") uses optical fiber coupled to a card to transmit optical signals between nodes.

59. The Accused Instrumentalities comprise a transmitter having at least one light source. The Accused Instrumentalities comprise a laser, for example, the 7100 OTS contains a tunable line side laser.

60. The Accused Instrumentalities comprise a phase modulator for phase modulating light from the source so as to create phase-modulated optical signals in the light. The Accused Instrumentalities utilize Differential Phase Shift Key (DPSK) technology, which establishes that the Accused Instrumentalities phase modulate the continuous wave light.

61. On information and belief, the Accused Instrumentalities create phase-modulated optical signals in the light as a function of an input electronic data stream. For example, on information belief, the Accused Instrumentalities use a DPSK transmitter for communications. On information and belief, the transmitter feedback loop in a precoder with a time delay "T" element feeding into an exclusive-or gate along with an input data stream and producing an output that controls the phase modulator.

62. On information and belief, the Accused Instrumentalities comprise a receiver having an interferometer for reading received optical signals, the interferometer having a delay loop fiber. For example, on information and belief the Accused Instrumentalities utilize a design for a delay line interferometer with two arms of different lengths.

63. On information and belief, the Accused Instrumentalities comprise a fastening device for securing the delay loop fiber. For example, the interferometer device for the Accused Instrumentalities is packaged, on information and belief, in an industry-standard module. Such a module must be fastened and soldered to a circuit board for operation. The subcomponents within the module, including the exemplary delay loop fiber, must be secured to the package or package substrate using a fastening device.

64. On information and belief, Defendants have directly infringed and continue to directly infringe the '592 Patent by, among other things, making, using, offering for sale, and/or selling the '592 Accused Instrumentalities, including the 7100 OTS. On information and belief, such products and/or services are covered by one or more claims of the '592 Patent, including at least claim 1. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

65. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the '592 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the '592 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

66. In addition, Defendants are actively inducing others, such as their customers and end users of Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim

1 of the '592 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants' customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the '592 Patent. Defendants have actual knowledge of the '592 Patent at least as of service of this complaint. Defendants are knowingly inducing its customers and/or end users to directly infringe the '592 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants' inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '592 Patent.

67. To the extent facts learned in discovery show that Defendants' infringement of the '592 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

68. As a result of Defendants' infringement of the '592 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

69. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '592 Patent, Oyster will be greatly and irreparably harmed.

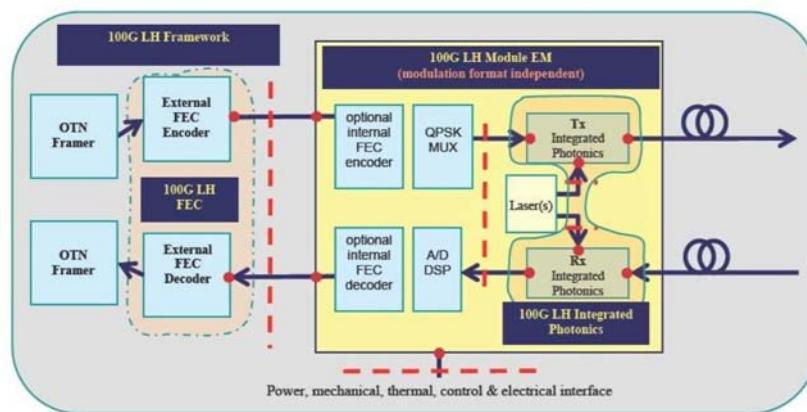
COUNT V

INFRINGEMENT OF THE '327 PATENT

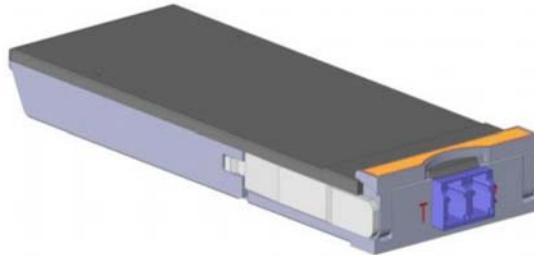
70. Oyster references and incorporates by reference paragraphs 1 through 68 of this Complaint.

71. On information and belief, the exemplary infringing products practice a method for operating an optical fiber multiplexor in a phase modulation mode. These products include, without limitation, the exemplary 7100 Optical Transport System, 7100 Nano Optical Transport System, and hiT 7300 P (“100G Accused Instrumentalities”).

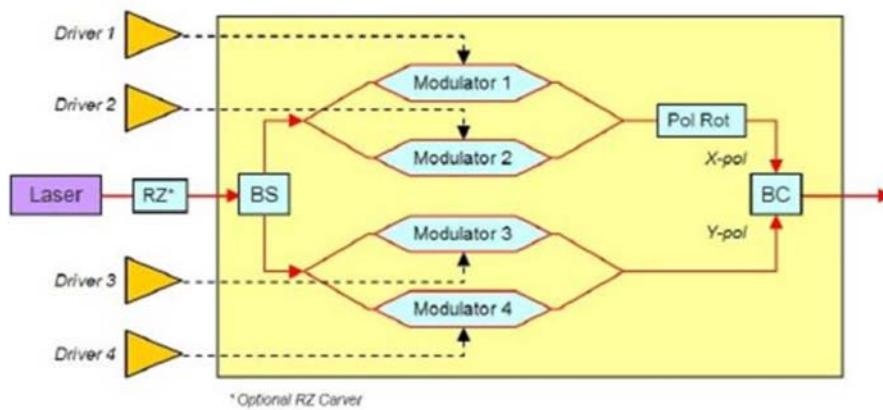
72. On information and belief, the 100G Accused Instrumentalities are transceiver card for a telecommunications box for transmitting data over a first optical fiber and receiving data over a second optical fiber. The 100G Accused Instrumentalities, on information and belief, are designed in accordance with Optical Internetworking Forum (“OIF”) specifications. The implementation of an exemplary OIF standardized DP-QPSK transceiver for sending and receiving data over optical fibers is depicted below. The blocks shown below are printed on a single circuit board or card.



The figure below depicts a product designed in accordance with the OIF CFP2 ACO standard, which shows a module or card that is implemented in a telecommunications box or system.



73. On information and belief, the 100G Accused Instrumentalities comprise a transmitter for transmitting data over the first optical fiber, the transmitter having a laser, a modulator, and a controller receiving input data and controlling the modulator as a function of the input data, the transmitter transmitting optical signals for telecommunication as a function of the input data. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G standard comprise a laser and a modulator. As shown below, OIF 100G Standard devices employ lasers and modulators.



74. As shown below, the Accused Instrumentalities designed in accordance with the OIF CFP2 ACO Standard contain a transmitter (Tx Coherent Optics) with a laser, a modulator,

and a driver which is configured to receive input data and control the modulator to generate a first optical signal as a function of the input data.

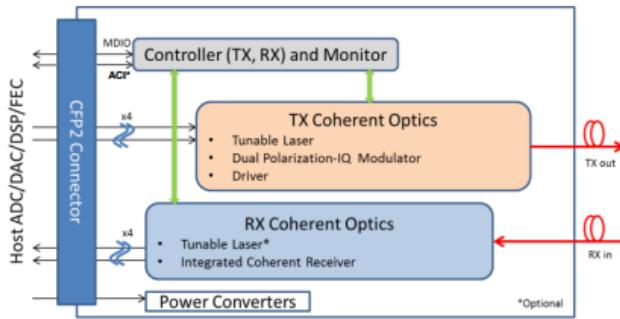


Figure 2 CFP2-ACO Module High Level Block Diagram

75. The figure below depicts an exemplary controller consistent with the OIF CPA2 ACO Standard, and, on information and belief, utilized by the 100G Accused Instrumentalities that is configured to receive input data and control the modulator to generate a first optical signal as a function of the input data.

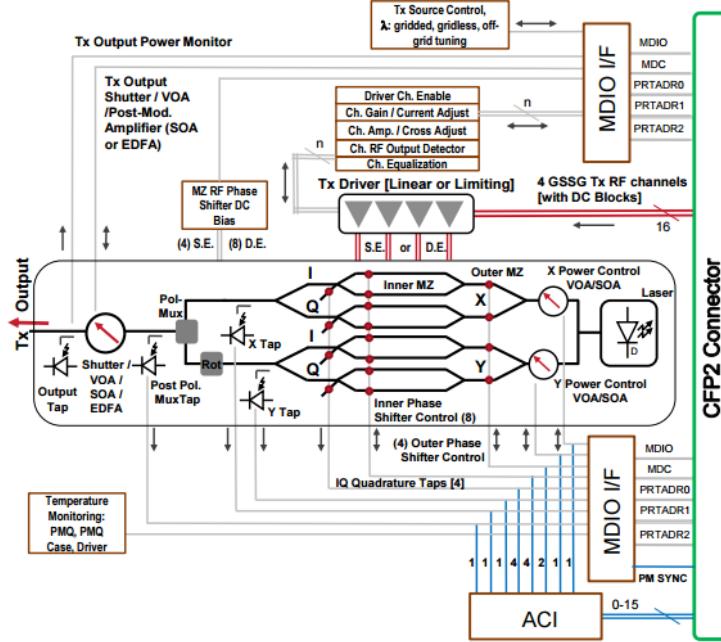


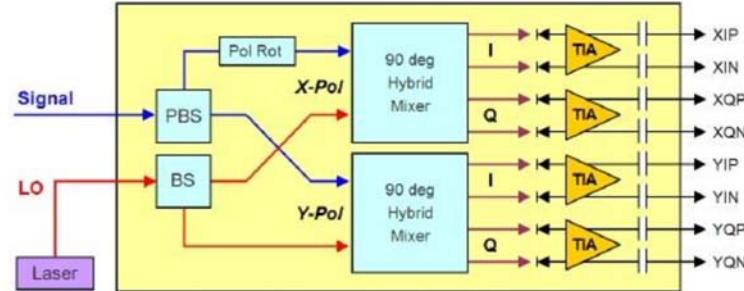
Figure 4: Superset Transmit Function Block Diagram with an MDIO plus Full Superset Analog Control Interface (ACI)

76. On information and belief, the 100G Accused Instrumentalities comprise a fiber output optically connected to the laser for connecting the first optical fiber to the card. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard utilize a laser's optical output as connected through "Tx Integrated Photonics" and an output to reach the optical transmission fiber, as depicted earlier above. A first optical fiber is also depicted as the "Tx out" of the exemplary OIF CFP2 ACO Standardized module.

77. On information and belief, the 100G Accused Instrumentalities comprise a fiber input for connecting the second optical fiber to the card. As depicted earlier above, a fiber receives the data going into the transceiver card.

78. On information and belief, the 100G Accused Instrumentalities comprise a receiver optically connected to the fiber input for receiving data from the second optical fiber. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G

Standard utilize a receiver module, below, that receives the optical signal from the receiver fiber at “Signal.”



79. As shown below, a module designed in accordance with the OIF CPD2 ACO Standard also depicts a receiver.

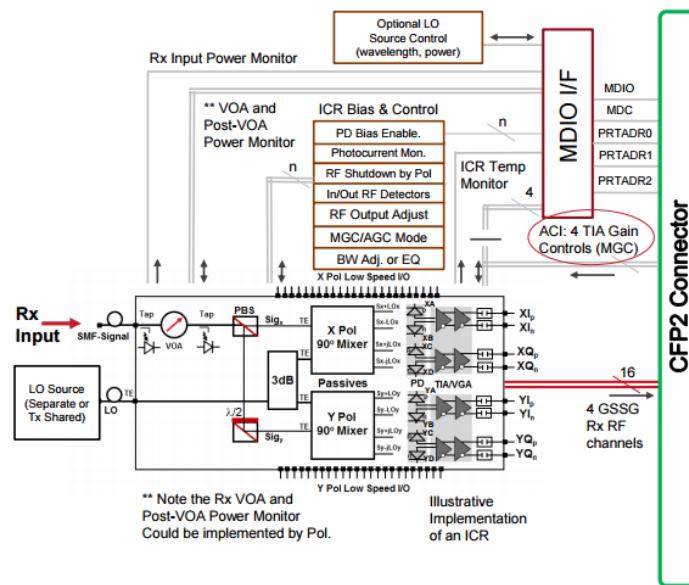
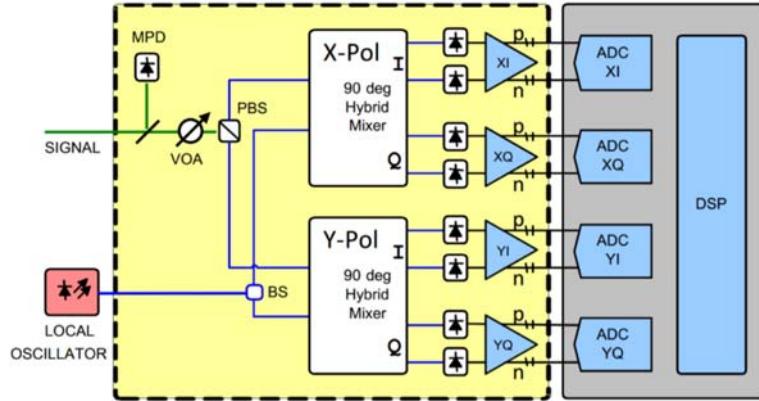


Figure 6: Superset Receive Function Block Diagram with an MDIO plus Full Superset Analog Control Interface (ACI)

80. On information and belief, the 100G Accused Instrumentalities comprise an energy level detector optically connected between the receiver and the fiber input to measure an energy level of the optical signals, wherein the energy level detector includes a plurality of thresholds. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard contain an energy level detector (power tap or monitor photodetector

(“MPD”)), as the OIF 100G Standard specifies an integrated receiver module whose functional diagram is shown below.



One of the basic requirements for the coherent receiver is an optical power tap or monitor photodiode (“MPD”) in the signal input path. This MPD provides a representation of the optical signal strength in the form of an electrical signal. The electrical signal is measured, and provides an indication of the energy level of the optical signal. Table 1 specifies the opto-electrical properties of the receiver. The average optical power of the operating signal has minimum, typical and maximum threshold values.

Table 1

Table 7: Opto-electrical properties

Parameter	Units	Min	Typ	Max	Comments
Symbol Rate	GBaud			32	
Operating Signal Power	dBm	-18	-10	0	Average optical power
Local Oscillator Power	dBm				See Figure 5 for recommended operating conditions.
Linear output swing adjustment range Standard Extended	mVppd mVppd	300 400	500	700 900	Peak to peak, differential, AC coupled

The defined parameters (e.g., current, average, minimum, and maximum) for the receiver input power are as depicted in Table 2 below.

Table 2

Rx Total Optical Power Monitoring [13.3 Provides Existing MIS Rx Input Power Monitoring Registers]						
B4E0	1	RO	15-0	Current Input Power [Total Rx]	A signed 16-bit integer with the LSB =	
[2.0] [000]				Optical]	0.01dBm. [2.6 commentary: Preferred Register for CFP2-ACO Total Current Rx Input Power.]	
B4F0 [2.0] [000]	1	RO	15-0	Average Input Power over PM Interval [Total Rx Optical]	A signed 16-bit integer with the LSB = 0.01dBm. [2.6 commentary: Preferred Register for CFP2-ACO Average Total Current Rx Input Power.]	
B500 [2.0] [000]	1	RO	15-0	Minimum Input Power over PM interval [Total Rx Optical]	A signed 16-bit integer with the LSB = 0.01dBm. [2.6 commentary: Preferred Register for CFP2-ACO Minimum Total Current Rx Input Power.]	
B510 [2.0] [000]	1	RO	15-0	Maximum Input Power over PM interval [Total Rx Optical]	A signed 16-bit integer with the LSB = 0.01dBm. [2.6 commentary: Preferred Register for CFP2-ACO Maximum Total Current Rx Input Power.]	

Tables 1 and 2 above specify the opto-electrical properties of the receiver. The average optical power of the operating signal has minimum, typical and maximum threshold values.

81. On information and belief, Defendants have directly infringed and continue to directly infringe the '327 Patent by, among other things, making, using, offering for sale, and/or selling the '327 100G Accused Instrumentalities, including the 7100 OTS. On information and belief, such products and/or services are covered by one or more claims of the '327 Patent, including at least claim 1. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

82. By making, using, offering for sale, and/or selling the 100G Accused Instrumentalities infringing the '327 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the '327 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

83. In addition, Defendants actively induce others, including without limitation customers and end users of Accused Instrumentalities, to directly infringe each and every claim limitation, including without limitation claim 1 of the '327 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants' customers and/or end users have directly

infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the '327 Patent. Defendants have actual knowledge of the '327 Patent at least as of service of this Complaint. Defendants are knowingly inducing its customers and/or end users to directly infringe the '327 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants' inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '327 Patent.

84. To the extent facts learned in discovery show that Defendants' infringement of the '327 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

85. As a result of Defendants' infringement of the '327 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

86. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '327 Patent, Oyster will be greatly and irreparably harmed.

COUNT VI

INFRINGEMENT OF THE '511 PATENT

87. Oyster references and incorporates by reference paragraphs 1 through 85 of this Complaint.

88. On information and belief, Defendants make, use, offer to sell and/or sell in the United States the 100G Accused Instrumentalities that infringe various claims of the '511 Patent, and continue to do so.

89. On information and belief, the 100G Accused Instrumentalities practice a method for operating an optical fiber multiplexor in a phase modulation mode. The '511 Accused Instrumentalities, such as the exemplary 7100 Optical Transport System ("7100 OTS"), on information and belief, are designed in accordance with the OIF 100G Standard specifying DP-QPSK as the modulation format for 100G. On information and belief, the 100G Accused Instrumentalities are also designed in accordance with the OIF CFP2 ACO Standard.

90. On information and belief, the 100G Accused Instrumentalities perform the step of feeding input data to a controller of a transmitter of a telecommunications box, the telecommunications box having an electronic data input for the input data and an electronic data output. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G standard comprise a laser and a modulator. As shown earlier above, OIF 100G Standard devices employ lasers and modulators. As shown above, OIF 100G Standard devices employ lasers and modulators. The signal passes to the transceiver module. Data is converted to drive signals to control the optical modulators. A transmit laser provides the light source for the modulators. On the receive side the incoming signal is mixed with a local oscillator, demodulated into components, detected, amplified, digitized, then passed into the DSP module.

91. On information and belief, the 100G Accused Instrumentalities perform the step of using the controller, controlling a modulator to phase modulate light from a laser as a function of the input data. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard utilized a transceiver where data is converted to drive signals to control

the optical modulators, as shown earlier above. The exemplary 7100 OTS has modulators which phase modulate the laser as a function of the input data from the 100G FEC ASIC.

92. On information and belief, the 100G Accused Instrumentalities perform the step of sending the modulated light as an optical signal from the transmitter over an optical fiber. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G transmit phase modulated optical signal over an optical fiber, as shown earlier above.

93. On information and belief, the 100G Accused Instrumentalities perform the step of receiving the optical signals from the optical fiber at a receiver of a further telecommunications box and converting the optical signals to electronic output data. An exemplary fiber input optically connected to the receiver and configured to optically connect the second optical fiber to the transceiver card is also depicted earlier above at the “Rx in” of the exemplary OIF-CFP2-ACO Standardized module, and at the connection between the RX Coherent Optics block and the CFP2 Connector. On information and belief, the 100G Accused Instrumentalities designed in accordance with the OIF-DPC-RX Standard utilize an integrated receiver module.

94. On information and belief, the 100G Accused Instrumentalities perform the step of passing the phase-modulated optical signals to a photodetector to produce an electric signal. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G and OIF-DPC-RX Standards utilize a monitoring photodiode (MPD) that taps and receives the phase-modulated incoming optical signal and produces an electrical signal in response, as depicted in earlier above. For example, the exemplary 7100 OTS passes a phase modulated signal to a PIN photodetector to produce an electrical signal, as shown above.

95. On information and belief, the 100G Accused Instrumentalities perform the step

of filtering the electrical signal to produce an average optical power. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard contain an energy level detector (power tap or monitor photodiode (MPD)), as the OIF 100G Standard specifies an integrated receiver module whose functional diagram is shown earlier above. One of the basic requirements for the coherent receiver is an optical power tap (“MPD”) in the signal input path. Table 1 specifies the opto-electrical properties of the receiver. The average optical power of the operating signal has minimum, typical and maximum threshold values.

96. On information and belief, Defendants have directly infringed and continue to directly infringe the ’511 Patent by, among other things, making, using, offering for sale, and/or selling the ’511 Accused Instrumentalities, including the 7100 OTS. On information and belief, such products and/or services are covered by one or more claims of the ’511 Patent, including at least claim 9. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

97. By making, using, offering for sale, and/or selling the 100G Accused Instrumentalities infringing the ’511 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the ’511 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

98. In addition, Defendants are actively inducing others, such as their customers and end users of 100G Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 9 of the ’511 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants’ customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 9 of the ’511 Patent.

Defendants have actual knowledge of the '511 Patent at least as of service of this Complaint. Defendants are knowingly inducing its customers and/or end users to directly infringe the '511 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants' inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '511 Patent.

99. To the extent facts learned in discovery show that Defendants' infringement of the '511 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

100. As a result of Defendants' infringement of the '511 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

101. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '511 Patent, Oyster will be greatly and irreparably harmed.

COUNT VII

INFRINGEMENT OF THE '898 PATENT

102. Oyster references and incorporates by reference paragraphs 1 through 100 of this Complaint.

103. On information and belief, Defendants make, use, offer to sell and/or sell in the

United States the 100G Accused Instrumentalities that infringe various claims of the '898 Patent, and continue to do so.

104. On information and belief, the 100G Accused Instrumentalities are a transceiver card for a telecommunications box for transmitting data over a first optical fiber and receiving data over a second optical fiber. For example, the exemplary 7100 Optical Transport System (“7100 OTS”) includes a transceiver card for a telecommunications box for transmitting data over a first optical fiber and receiving data over a second optical fiber. The 100G Accused Instrumentalities, on information and belief, are designed in accordance with OIF 100G Standard. OIF has focused on DP-QPSK as the modulation format for 100G. On information and belief, the 100G Accused Instrumentalities are also designed in accordance with the OIF CFP2 ACO Standard. An exemplary OIF standardized DP-QPSK transceiver for sending and receiving data over optical fibers is shown earlier above. The blocks depicted are implemented on a card.

105. On information and belief, the 100G Accused Instrumentalities comprise a transmitter having a laser, a modulator, and a controller configured to receive input data and control the modulator to generate a first optical signal as a function of the input data. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G standard comprise a laser and a modulator. As shown earlier above, OIF 100G Standard devices employ lasers and modulators. As shown earlier above, the Accused Instrumentalities designed in accordance with the OIF CFP2 ACO Standard contain a transmitter (Tx Coherent Optics) with a laser, a modulator, and a driver which is configured to receive input data and control the modulator to generate a first optical signal as a function of the input data. As shown earlier above, an exemplary controller consistent with the OIF CPA2 ACO Standard, and, on

information and belief utilized by the 100G Accused Instrumentalities, is configured to receive input data and control the modulator to generate a first optical signal as a function of the input data. The exemplary 7100 OTS has modulators which phase modulate the laser as a function of the input data from the 100G FEC ASIC.

106. On information and belief, the 100G Accused Instrumentalities comprise a fiber output optically connected to the transmitter and configured to optically connect the first optical fiber to the transceiver card. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard utilize a laser's optical output as connected through the "Tx Integrated Photonics" depicted earlier above. Also depicted earlier above is an output to reach the optical transmission fiber. A first optical fiber is also depicted earlier above at the "Tx out" of the exemplary OIF CFP2 ACO Standardized module.

107. On information and belief, the 100G Accused Instrumentalities comprise a receiver configured to receive a second optical signal from the second optical fiber and to convert the second optical signal to output data. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard, including the OIF CPD2 ACO Standard, utilize a receiver module depicted earlier above that receives the optical signal from the receiver fiber at "Signal." As shown earlier above, the exemplary 7100 OTS has a receiver configured to receive a second optical signal from the second optical fiber. The fiber transmits the modulated light signal from the trunk interface to the receiver. The received signal is further processed to electronic output data.

108. On information and belief, the 100G Accused Instrumentalities comprise a fiber input optically connected to the receiver and configured to optically connect the second optical fiber to the transceiver card. For example, the 100G Accused Instrumentalities designed in

accordance with the OIF 100G Standard connect the laser's optical output through the "Rx Integrated Photonics", and also specify an output to reach the optical transmission fiber, as depicted earlier above. An exemplary fiber input optically connected to the receiver and configured to optically connect the second optical fiber to the transceiver card is also depicted at earlier above at the "Rx in" of the exemplary OIF CFP2 ACO Standardized module, and at the connection between the RX Coherent Optics block and the CFP2 Connector.

109. On information and belief, the 100G Accused Instrumentalities comprise an energy level detector optically connected between the receiver and the fiber input to measure an energy level of the second optical signal, wherein the energy level detector includes a plurality of thresholds. For example, the 100G Accused Instrumentalities designed in accordance with the OIF 100G Standard and, for example, the OIF DPC RX Standard, contain an energy level detector depicted by the monitoring photodiode ("MPD"). The OIF 100G and OIF DPC RX Standards specify an integrated receiver module whose functional diagram is shown earlier above. One of the basic requirements for the coherent receiver is an optical power tap (monitor photodiode or "MPD") in the signal input path. This MPD provides a representation of the optical signal strength in the form of an electrical signal. The electrical signal is measured, and provides an indication of the energy level of the optical signal. Table 1 specifies the opto-electrical properties of the receiver. The average optical power of the operating signal has minimum, typical and maximum threshold values.

110. On information and belief, Defendants have directly infringed and continue to directly infringe the '898 Patent by, among other things, making, using, offering for sale, and/or selling the '898 Accused Instrumentalities, including the 7100 OTS. On information and belief, such products and/or services are covered by one or more claims of the '898 Patent, including at

least claim 1. Defendants also sold and offered for sale the 7100 Nano Optical Transport System, and hiT 7300 P products which also infringe in a substantially similar manner.

111. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the '898 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the '898 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

112. In addition, Defendants are actively inducing others, such as their customers and end users of Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 1 of the '898 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants' customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the '898 Patent. Defendants have actual knowledge of the '898 Patent at least as of service of this Complaint. Defendants are knowingly inducing its customers and/or end users to directly infringe the '898 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants' inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '898 Patent.

113. To the extent facts learned in discovery show that Defendants' infringement of the '898 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

114. As a result of Defendants' infringement of the '898 Patent, Oyster has suffered

monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

115. Unless a permanent injunction is issued enjoining Defendants and their agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '898 Patent, Oyster will be greatly and irreparably harmed.

COUNT VIII
INFRINGEMENT OF THE '012 PATENT

116. Oyster references and incorporates by reference paragraphs 1-114 of this Complaint.

117. On information and belief, Defendants make, use, offer for sale and/or sell in the United States products that infringe various claims of the '012 Patent, including without limitation the Coriant Integrated OTDR products including without limitation the hiT 7300, mTera UTP, and 7100 Series, Raman amplifiers such as the PRC-3 and PRC-4 for the hiT 7300, and the Coriant OTDR16 (hereinafter, "OTDR Accused Instrumentalities"), and continue to do so.

118. The OTDR Accused Instrumentalities comprise a telecommunications monitoring method. For example, a Coriant document describes how the integrated OTDR functionality in certain exemplary OTDR Accused Instrumentalities are used to test and monitor in- and out-of-service cables and evaluate a number of possible concerns, including "the length and attenuation of the fiber and the location and severity of reflections including the location of any fiber cut,"

and detecting intrusions.¹ The generalized functionality of OTDR is depicted in the figure below.²

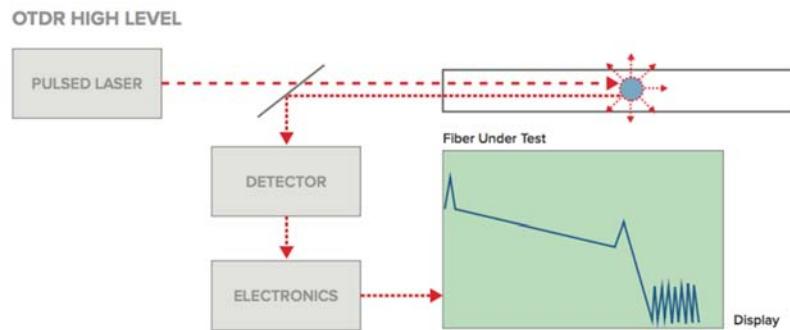
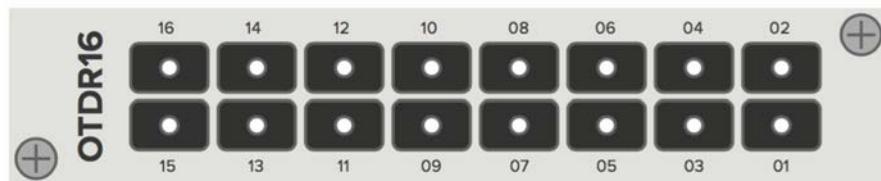


Figure 1: High Level OTDR

119. The OTDR Accused Instrumentalities receive an incoming optical signal at a downstream termination point, located within an optical multiplexor box, of an optical fiber. The OTDR Accused Instrumentalities, including without limitation Coriant integrated OTDR solutions support “both in-service and out-of-service OTDR on up to 16 fibers.” An in-service fiber must permit the transmission of an incoming optical signal to be received at, for example, a carrier card that supports the OFP1 pluggable format of the exemplary OTDR16 module.³ The pluggable form-factor is depicted below in the figure below.



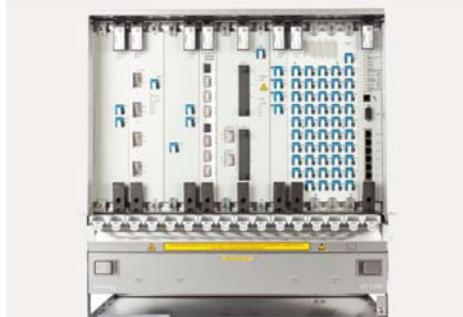
Line cards and other infringing modules are located within a multiplexor box. For example, the hiT 7300 and 7100 series products are multiplexor boxes with varying numbers of “traffic slots.”

¹ Coriant Integrated OTDR.pdf at p. 1, available at http://www.coriant.com/products/documents/AN_Integrated_OTDR_74C0134.pdf.

² *Id.* at p. 1.

³ *Id.* at 3.

Because the “boxes” (depicted in the figures below)⁴ and the cards therein are capable of processing Dense Wavelength Division **Multiplexed** (DWDM) signals, the exemplary hiT 7300 and 7100 Series are multiplexor boxes.⁵



hiT 7300 Standard Shelf with 15 traffic slots



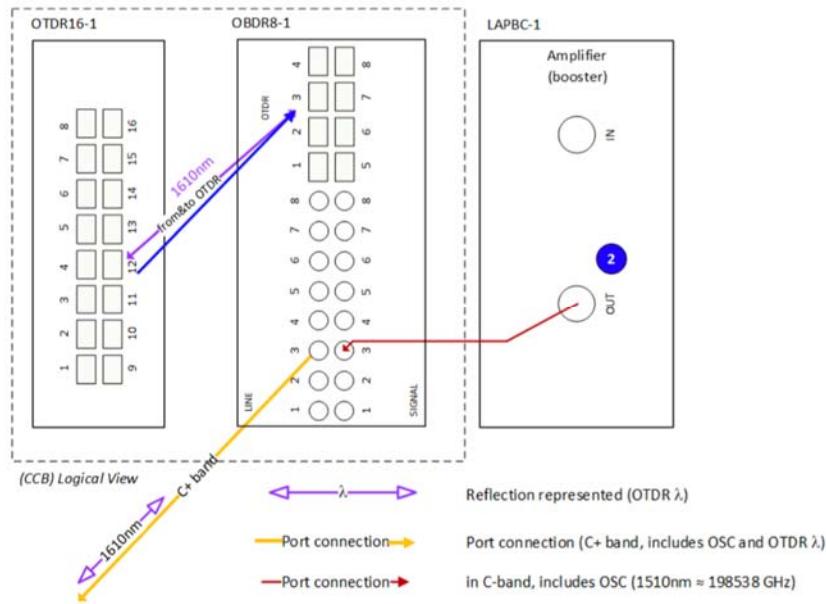
hiT 7300 Flatpack Shelf with 5 traffic slots



⁴ See, e.g., 7100 Nano Optical Transport System Datasheet at p. 1; Coriant hiT 7300 Datasheet at 1.

⁵ See, e.g., *id.* at 1 (“Delivering an Unrivaled DWDM Optical Transport Solution”); Coriant 7100 Nano Optical Transport System Datasheet at p. 1 (“The Coriant 7100 Nano OTS features field-proven capabilities found on the Coriant 7100 OTS, such as Add/Drop Multiplexer (ADM) on a blade and fixed or reconfigurable Dense Wavelength Division Multiplexing (DWDM) transport.”)

120. On information and belief, the OTDR Accused Instrumentalities split, within the optical multiplexor box, the incoming optical signal into a data optical signal and a test optical signal. For example, the exemplary OTDR Accused Instrumentalities support “measurements with resolution down to as little as 1 meter and distances of approximately 100 km. In order to support in-service operation, the OTDR16 operates at 1625 nm in the L band and therefore requires a filter to separate this from the C band, which is used for the DWDM channels. Compact, low-loss filters are available for the hiT 7300 and 7100 Series to perform this function while the ROADM-on-a-blade modules for the mTera® UTP contain an integrated filter.”⁶ Such use of a filter is an example of splitting the incoming optical signal into a data optical signal and a test optical signal, as shown in the exemplary figure below.⁷



121. On information and belief, the OTDR Accused Instrumentalities tap the data optical signal to produce a tapped optical signal. For example, the OTDR Accused Instrumentalities, on information and belief, operate in compliance with the OIF standards that

⁶ Coriant Integrated OTDR.pdf at p. 3.

⁷ Coriant hiT 7300 Technical Description (TED) at § 6.20, p. 242.

Coriant is actively involved in developing,⁸ including the OIF 100G⁹ and DPC RX Standards.

On information and belief, the Accused Instrumentalities conform to these standards, and therefore contain an energy level detector as depicted by the monitoring photodiode (“MPD”) in the figures above. This is an example of tapping the data optical signal to produce a tapped optical signal.

122. On information and belief, the multiplexor box processes the data optical signal to produce a data electrical signal indicative of data encoded in the incoming optical signal. Such a step is essential to the optical telecommunications that the Accused Instrumentalities facilitate.

123. On information and belief, the OTDR Accused Instrumentalities process the tapped optical signal to produce an electrical signal indicative of a power of the data optical signal. As discussed previously, the OIF 100G and OIF DPC RX Standards specify an integrated receiver module whose functional diagram is shown above. One of the basic requirements for the coherent receiver is an optical power tap (monitor photodiode or “MPD”) in the signal input path. This MPD provides a representation of the optical signal strength in the form of an electrical signal. The electrical signal is measured, and provides an indication of the energy level of the optical signal, as shown in Tables 1 and 2 above.

124. The OTDR Accused Instrumentalities perform, using a OTDR within the multiplexor box, OTDR monitoring of an optical fiber. For example, options for “integrated OTDR are available in the Coriant optical portfolio. Raman amplifiers such as the PRC-3 and PRC-4 for the hiT 7300 include an integrated out-of-service OTDR to enable safe and fast

⁸ See, e.g., Coriant hiT 7300 Technical Description (TED) at § 12, p. 383 (“Coriant is actively involved with the work of the relevant standard bodies ITU, OIF, IETF and TMF.”)

⁹ See generally, e.g., id.

commissioning of Raman and fast redeployment after a fiber cut.”¹⁰ Another option is “based on the Coriant OTDR16. Using the OFP1 pluggable form factor of the Coriant® Pluggable Optical Layer, the OTDR16 is supported in the hiT 7300, mTera® UTP, and 7100 Series in carrier cards that support OFP1 pluggables.”¹¹

125. On information and belief, Defendants have directly infringed and continue to directly infringe the ’012 Patent by, among other things, making, using, offering for sale, and/or selling the OTDR Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the ’012 Patent including at least claim 1.

126. By making, using, offering for sale, and/or selling the OTDR Accused Instrumentalities infringing the ’012 Patent, Defendants have injured Oyster and are liable to Oyster for infringement of the ’012 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

127. In addition, Defendants are actively inducing others, such as their customers and end users of OTDR Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 1 of the ’012 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendants’ customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the ’012 Patent. Defendants have actual knowledge of the ’012 Patent at least as of service of this Complaint. Defendants are knowingly inducing their customers and/or end users to directly infringe the ’012 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendants’ inducement includes, for example, providing

¹⁰ Coriant Integrated OTDR.pdf at p. 3.

¹¹ *Id.*

technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce their customers and/or end users to directly infringe the '012 Patent.

128. To the extent facts learned in discovery show that Defendants' infringement of the '898 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

129. As a result of Defendants' infringement of the '012 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendants' infringing activities are enjoined by this Court.

130. Unless a permanent injunction is issued enjoining Defendants and its agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '012 Patent, Oyster will be greatly and irreparably harmed.

PRAYER FOR RELIEF

Plaintiff respectfully requests the following relief from this Court:

- A. A judgment that Defendants have infringed one or more claims of the '816, '952, '055, '592, '327, '511, '898 and/or '012 Patents;
- B. A permanent injunction enjoining Defendants and their officers, directors, agents, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation with Defendants, from infringing the '816, '952, '055, '592, '327, '511, '898 and/or '012 Patents;
- C. A judgment and order requiring Defendants to pay Oyster its damages, costs,

expenses, and prejudgment and post-judgment interest for Defendants' acts of infringement in accordance with 35 U.S.C. § 284;

D. A judgment and order requiring Defendants to provide accountings and to pay supplemental damages to Oyster, including, without limitation, prejudgment and post-judgment interest;

E. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Oyster its reasonable attorneys' fees against Defendants; and Any and all other relief to which Oyster may show itself to be entitled.

JURY TRIAL DEMANDED

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Oyster requests a trial by jury of any issues so triable by right.

Dated: February 24, 2017

Respectfully submitted,

/s/ Marc A. Fenster w/permission Claire Henry

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was filed electronically in compliance with Local Rule CV-5(a). Therefore, this document was served on all counsel who are deemed to have consented to electronic service. Local Rule CV-5(a)(3)(A). Pursuant to Fed. R. Civ. P. 5(d) and Local Rule CV-5(d) and (e), all other counsel of record not deemed to have consented to electronic service were served with a true and correct copy of the foregoing by email on this the 24th day of February, 2017.

/s/ Claire Henry